MATERIALS SPECIFICATION FOR RESILIENT SEATED GATE VALVES

150 POUND CLASS - 3 INCH THROUGH 12 INCH NOMINAL DIAMETER

1. General:

All valves supplied under this Specification shall be designed and manufactured in accordance with AWWA C509, with the following additional requirements or exceptions.

Reduced-wall gate valves may be supplied in accordance with AWWA C515.

2. Valve Description:

Valves shall be iron body, resilient seated gate valves with non-rising stems. If the resilient seats are bonded to the gates, the gates shall be totally encapsulated with the material, with the exception of any guide tabs or slots. Valve bodies shall be designed to allow lifting of the valves by the bonnet flange, gland flanges or other appurtenances.

3. Installation:

Valves will be installed with the stem vertical in buried horizontal water lines without gearing, bypasses, rollers or tracks.

4. Service:

All valves shall be suitable for frequent operation as well as service involving long periods of inactivity. Valves shall be capable of operating satisfactorily with flows in either direction, and shall provide zero leakage past the seat. The operating pressure for all sizes shall be 200 psig.

5. Valve Stems:

Valves shall be supplied with stems having a minimum yield strength of 40,000 psi and a minimum elongation in 2 inches of 12% and shall be made of bronze per ASTM B 763, Copper Alloy No. C99500 or stainless steel per ASTM A 276, type 304 or 316; or AISI 420. Valves shall be supplied with wrench nuts in accordance with 4.11 of AWWA C509. Stem seal shall consist of two (2) O-rings in accordance with Section 4.8 of AWWA C509. The valves shall open by turning to the right.

6. BOLTING MATERIAL:

Bonnet and gland bolts and nuts shall be either fabricated from a low alloy-steel for corrosion resistance or electro-plated with zinc or cadmium. The hot-dip process in accordance with ASTM A l53 is not acceptable.

7. END CONNECTIONS:

A. Flanges:

Flanges shall be sized and drilled in accordance with ANSI B16.1 Class 125. Flanges shall be machined to a flat surface with a serrated finish in accordance with AWWA C207.

B. Mechanical Joint:

All components of this type of joint shall conform to AWWA C111. The tee-head bolts and hexagon nuts shall be fabricated from a high-strength, low alloy steel known in the industry as Cor-Ten, Usalloy, ductile iron Durabolt or equal.

Accessories for the mechanical joint, consisting of the gasket, gland and fasteners shall be furnished and packaged separately from the valves. Each package shall be labeled in such a manner as to provide for proper identification and the number of units per package or bundle.

8. Testing:

Each valve, after shop assembly, shall be given the operation and hydrostatic tests in accordance with AWWA C509 or AWWA C515.

9. Painting:

All valves shall be painted or coated in accordance with 5.2 of AWWA C509 or Section 4.5.2 of AWWA C515. Machined flange faces shall be shop coated with a rust preventive compound.

10. Certification:

The manufacturer shall furnish a sworn statement that the inspection and all the specified tests have been made and the results thereof comply with the requirements of the applicable Standard(s) herein specified. A copy of the Certification including compliance with NSF Standard 61 shall be sent to Denver Water.

11. Acceptable Manufacturers:

The following brands are the only ones to be considered as resilient seat gate valves under this Specification:

American Flow Control
Mueller
Clow
Kennedy
U.S. Pipe & Foundry
American AVK

Other brands meeting the requirements of this Specification as outlined above will be considered on an individual basis.